

Autadmit #17

SEQUENCE LISTING



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NOV 07 2000

TECH CENTER 1600/2900

<110> Morell, Andreas
Imboden, Martin
Stadler, Beda
Miescher, Sylvia
Vogel, Monique
Amstutz, Hanspeter

<120> POLYPEPTIDES CAPABLE OF FORMING ANTIGEN BINDING
STRUCTURES WITH SPECIFICITY FOR THE RHESUS D ANTIGENS,
THE DNA ENCODING THEM AND THE PROCESS FOR THEIR
PREPARATION AND USE

RECEIVED

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<130> 6816/P63221US0

<140> 09/147,443

<141> 1999-01-21

<150> PCT/EP97/03253

<151> 1997-06-20

<150> EP 96810421.6

<151> 1996-06-24

<160> 77

<170> PatentIn Ver. 2.1

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tcc ctg aga ctc tcc tgt ata gcg tct gga ttc acc ctc agg aat tat 96
Ser Leu Arg Leu Ser Cys Ile Ala Ser Gly Phe Thr Leu Arg Asn Tyr
20 25 30

gcc atg cac tgg gtc cgc cag gct cca ggc aag ggg ctg gag tgg gtg 144
Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

gca ggt ata tgg ttt gat gga agt aac aaa aac tat gca gac tcc gtg 192
Ala Gly Ile Trp Phe Asp Gly Ser Asn Lys Asn Tyr Ala Asp Ser Val
50 55 60

aag ggc cga ttc acc atc tcc aga gac aat tcc aag aac acg ctg tat 240
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

ctg caa ctg aac agc ctg aga gac gag gac acg gct gtg tat tat tgt 288
Leu Gln Leu Asn Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys

| 85 | | | | | | | | | | 90 | | | | | 95 | | | | | |
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| Ala | Arg | Glu | Arg | Ala | Ala | Arg | Gly | Ile | Ser | Arg | Phe | Tyr | Tyr | Tyr | Met | | | | | |
| | | | 100 | | | | | 105 | | | | | 110 | | | | | | | |

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| Gln | Val | Lys | Leu | Leu | Glu | Ser | Gly | Gly | Gly | Val | Val | Gln | Pro | Gly | Arg | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Ser | Leu | Arg | Leu | Ser | Cys | Ile | Ala | Ser | Gly | Phe | Thr | Leu | Arg | Asn | Tyr | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Ala | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Val | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Ala | Gly | Ile | Trp | Phe | Asp | Gly | Ser | Asn | Lys | Asn | Tyr | Ala | Asp | Ser | Val | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Lys | Gly | Arg | Phe | Thr | Ile | Ser | Arg | Asp | Asn | Ser | Lys | Asn | Thr | Leu | Tyr | |
| | 65 | | | | 70 | | | | | 75 | | | | 80 | | |
| Leu | Gln | Leu | Asn | Ser | Leu | Arg | Asp | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys | |
| | | | 85 | | | | | | 90 | | | | | 95 | | |
| Ala | Arg | Glu | Arg | Ala | Ala | Arg | Gly | Ile | Ser | Arg | Phe | Tyr | Tyr | Tyr | Met | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
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| Val | Met | Thr | Gln | Ser | Pro | Ser | Ser | Leu | Ser | Ala | Ser | Val | Gly | Asp | Arg | |
| 1 | | | | 5 | | | | | 10 | | | | 15 | | | |
| gtc | acc | atc | act | tgc | cgg | gca | agt | cag | agc | att | agg | agc | cat | ttg | aat | 96 |
| Val | Thr | Ile | Thr | Cys | Arg | Ala | Ser | Gln | Ser | Ile | Arg | Ser | His | Leu | Asn | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |

tgg tat cag cag aaa cca ggg aaa gcc cct aag ttg ctg atc tat ggt 144
 Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Gly
 35 40 45

gcg tcc act ttg caa agt ggc gtc cca tca agg ttc agt ggc agt ggc 192
 Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
 50 55 60

tct ggg gca gtt ttc act ctc acc atc gcc agt cta caa cct gaa gat 240
 Ser Gly Ala Val Phe Thr Leu Thr Ile Ala Ser Leu Gln Pro Glu Asp
 65 70 75 80

ttt gca act tac tac tgt caa gag agt tac agt aat cct cta atc acc 288
 Phe Ala Thr Tyr Tyr Cys Gln Glu Ser Tyr Ser Asn Pro Leu Ile Thr
 85 90 95

ttc ggc caa ggg aca cga ctg gag act aaa 318
 Phe Gly Gln Gly Thr Arg Leu Glu Thr Lys
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Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Gly
 35 40 45

Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
 50 55 60

Ser Gly Ala Val Phe Thr Leu Thr Ile Ala Ser Leu Gln Pro Glu Asp
 65 70 75 80

Phe Ala Thr Tyr Tyr Cys Gln Glu Ser Tyr Ser Asn Pro Leu Ile Thr
 85 90 95

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| Gln | Val | Lys | Leu | Leu | Glu | Ser | Gly | Gly | Gly | Val | Val | Gln | Pro | Gly | Gly | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| tcc | ctg | aga | ctc | tcc | tgt | gaa | gcg | tct | gga | ttc | gcc | ctc | aga | agt | tct | 96 | |
| Ser | Leu | Arg | Leu | Ser | Cys | Glu | Ala | Ser | Gly | Phe | Ala | Leu | Arg | Ser | Ser | | |
| | | | 20 | | | | | 25 | | | | | 30 | | | | |
| ggc | atg | cac | tgg | gtc | cgc | cag | gct | cct | ggc | aag | ggg | ctg | gag | tgg | gtg | 144 | |
| Gly | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Val | | |
| | | 35 | | | | | 40 | | | | | 45 | | | | | |
| gca | ctt | ata | tgg | ttt | gat | gga | agt | atc | aga | tcg | tat | gca | gaa | tcc | gtg | 192 | |
| Ala | Leu | Ile | Trp | Phe | Asp | Gly | Ser | Ile | Arg | Ser | Tyr | Ala | Glu | Ser | Val | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| aag | ggc | cga | ttc | acc | atc | tcc | aga | gac | act | tcc | aag | aac | acc | cta | tat | 240 | |
| Lys | Gly | Arg | Phe | Thr | Ile | Ser | Arg | Asp | Thr | Ser | Lys | Asn | Thr | Leu | Tyr | | |
| | 65 | | | | 70 | | | | | 75 | | | | | 80 | | |
| ctc | caa | atg | cgc | agt | ctg | agt | gcc | gac | gac | acg | gct | gtg | tat | tac | tgt | 288 | |
| Leu | Gln | Met | Arg | Ser | Leu | Ser | Ala | Asp | Asp | Thr | Ala | Val | Tyr | Tyr | Cys | | |
| | | | | 85 | | | | | 90 | | | | | 95 | | | |
| gcg | aga | gac | aag | gcg | gtt | cgg | gga | att | agc | agg | tac | aac | tat | tac | atg | 336 | |
| Ala | Arg | Asp | Lys | Ala | Val | Arg | Gly | Ile | Ser | Arg | Tyr | Asn | Tyr | Tyr | Met | | |
| | | | 100 | | | | | 105 | | | | | 110 | | | | |
| gac | gtc | tgg | ggc | aaa | ggg | acc | acg | gtc | acc | gtc | tcc | tca | | | | 375 | |
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| Gln | Val | Lys | Leu | Leu | Glu | Ser | Gly | Gly | Gly | Val | Val | Gln | Pro | Gly | Gly | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Ser | Leu | Arg | Leu | Ser | Cys | Glu | Ala | Ser | Gly | Phe | Ala | Leu | Arg | Ser | Ser | | |
| | | | 20 | | | | | 25 | | | | | 30 | | | | |
| Gly | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Val | | |
| | | 35 | | | | | 40 | | | | | 45 | | | | | |
| Ala | Leu | Ile | Trp | Phe | Asp | Gly | Ser | Ile | Arg | Ser | Tyr | Ala | Glu | Ser | Val | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| Lys | Gly | Arg | Phe | Thr | Ile | Ser | Arg | Asp | Thr | Ser | Lys | Asn | Thr | Leu | Tyr | | |
| | 65 | | | | 70 | | | | | 75 | | | | | 80 | | |
| Leu | Gln | Met | Arg | Ser | Leu | Ser | Ala | Asp | Asp | Thr | Ala | Val | Tyr | Tyr | Cys | | |
| | | | | 85 | | | | | 90 | | | | | 95 | | | |
| Ala | Arg | Asp | Lys | Ala | Val | Arg | Gly | Ile | Ser | Arg | Tyr | Asn | Tyr | Tyr | Met | | |
| | | | 100 | | | | | 105 | | | | | 110 | | | | |
| Asp | Val | Trp | Gly | Lys | Gly | Thr | Thr | Val | Thr | Val | Ser | Ser | | | | | |
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gtc acc atc act tgc cgg gca agt cag aac att atc cgc tat tta aat 96
Val Thr Ile Thr Cys Arg Ala Ser Gln Asn Ile Ile Arg Tyr Leu Asn
20 25 30

tgg tat cag cag aag cca ggg aaa gcc cct agg ctc ctg atc tat ggt 144
Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile Tyr Gly
35 40 45

gcg tcc act ttg caa agt ggg gtc cca tca agg ttc agt ggc agt gga 192
Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
50 55 60

tct ggg aca gat ttc act ctc acc atc agt agt ctg caa cct gaa gat 240
Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
65 70 75 80

ttt gca act tac tac tgt caa cag agt tac cgt acc cct cca ttc act 288
Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Arg Thr Pro Pro Phe Thr
85 90 95

ttc ggc cct ggg acc aaa gtg gag atc aaa 318
Phe Gly Pro Gly Thr Lys Val Glu Ile Lys
100 105

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20 25 30

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile Tyr Gly
35 40 45

Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
50 55 60

Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp

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Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Arg Thr Pro Pro Phe Thr

 85 90 95

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| <400> | 9 | | | | | | | | | | | | | | | | |
| cag | gtg | aaa | ctg | ctc | gag | tct | ggg | gga | ggc | gtg | gtc | cag | ccg | ggg | ggg | | 48 |
| Gln | Val | Lys | Leu | Leu | Glu | Ser | Gly | Gly | Gly | Val | Val | Gln | Pro | Gly | Gly | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| tcc | ctg | aga | ctc | tcc | tgt | gaa | gcg | tct | gga | ttc | acc | ctc | aga | agt | tct | | 96 |
| Ser | Leu | Arg | Leu | Ser | Cys | Glu | Ala | Ser | Gly | Phe | Thr | Leu | Arg | Ser | Ser | | |
| | | | 20 | | | | | 25 | | | | | 30 | | | | |
| ggc | atg | cac | tgg | gtc | cgc | cag | gct | cct | ggc | aag | ggg | ctg | gag | tgg | gtg | | 144 |
| Gly | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Val | | |
| | | 35 | | | | 40 | | | | | | 45 | | | | | |
| gca | ctt | ata | tgg | ttt | gat | gga | agt | atc | aga | tcg | tat | gca | gaa | tcc | gtg | | 192 |
| Ala | Leu | Ile | Trp | Phe | Asp | Gly | Ser | Ile | Arg | Ser | Tyr | Ala | Glu | Ser | Val | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| aag | ggc | cga | ttc | acc | atc | tcc | aga | gac | act | tcc | aag | aac | acc | cta | tat | | 240 |
| Lys | Gly | Arg | Phe | Thr | Ile | Ser | Arg | Asp | Thr | Ser | Lys | Asn | Thr | Leu | Tyr | | |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | | | |
| ctc | caa | atg | cgc | agt | ctg | agt | gcc | gac | gac | acg | gct | gtg | tat | tac | tgt | | 288 |
| Leu | Gln | Met | Arg | Ser | Leu | Ser | Ala | Asp | Asp | Thr | Ala | Val | Tyr | Tyr | Cys | | |
| | | | | 85 | | | | | 90 | | | | | 95 | | | |
| gcg | aga | gac | aag | gcg | gtt | cgg | gga | att | agc | agg | tac | aac | tat | tac | atg | | 336 |
| Ala | Arg | Asp | Lys | Ala | Val | Arg | Gly | Ile | Ser | Arg | Tyr | Asn | Tyr | Tyr | Met | | |
| | | | 100 | | | | 105 | | | | | 110 | | | | | |
| gac | gtc | tgg | ggc | aaa | ggg | acc | acg | gtc | acc | gtc | tcc | tca | | | | | 375 |
| Asp | Val | Trp | Gly | Lys | Gly | Thr | Thr | Val | Thr | Val | Ser | Ser | | | | | |
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 35 40 45
 Ala Leu Ile Trp Phe Asp Gly Ser Ile Arg Ser Tyr Ala Glu Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Thr Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Arg Ser Leu Ser Ala Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Asp Lys Ala Val Arg Gly Ile Ser Arg Tyr Asn Tyr Tyr Met
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 Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
 115 120 125

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 gtc acc atc acc tgc cgg gca agt cag agt atc atc agg tat ttg aat 96
 Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ile Arg Tyr Leu Asn
 20 25 30
 tgg tat cag cac aaa cca gga aaa gcc cct aaa ctc ctc atc ttt gct 144
 Trp Tyr Gln His Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Phe Ala
 35 40 45
 gca tcg aat ttg caa act ggg gtc cca tcc agg ttc agt ggc agt gga 192
 Ala Ser Asn Leu Gln Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
 50 55 60
 tct ggg aca gat ttc act ctc acc atc agt gac ctg cag cct gag gat 240
 Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asp Leu Gln Pro Glu Asp
 65 70 75 80
 ttc gca act tac tac tgt caa cag agt tac agt agg ccg ttc act ttt 288
 Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Arg Pro Phe Thr Phe
 85 90 95
 ggc cgg ggg acc agc ctg gac atc aaa 315
 Gly Arg Gly Thr Ser Leu Asp Ile Lys
 100 105

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 35 40 45
 Ala Ser Asn Leu Gln Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
 50 55 60
 Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asp Leu Gln Pro Glu Asp
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 Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Arg Pro Phe Thr Phe
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 Gly Arg Gly Thr Ser Leu Asp Ile Lys
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 tcc ctg aga ctc tcc tgt ata gcg tct gga ttc acc ctc agg aat tat 96
 Ser Leu Arg Leu Ser Cys Ile Ala Ser Gly Phe Thr Leu Arg Asn Tyr
 20 25 30
 gcc atg cac tgg gtc cgc cag gct cca ggc aag ggg ctg gag tgg gtg 144
 Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 gca ggt ata tgg ttt gat gga agc aac aaa aac tat gca gac tcc gtg 192
 Ala Gly Ile Trp Phe Asp Gly Ser Asn Lys Asn Tyr Ala Asp Ser Val
 50 55 60
 aag ggc cga ttc acc atc tcc aga gac aac tcc aag aac act ctg ttt 240
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Phe
 65 70 75 80

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ctg | cac | atg | aac | agc | ctg | aga | gcc | gag | gac | acg | gct | aca | tat | tac | tgt | 288 |
| Leu | His | Met | Asn | Ser | Leu | Arg | Ala | Glu | Asp | Thr | Ala | Thr | Tyr | Tyr | Cys | |
| | | | 85 | | | | | | 90 | | | | | | 95 | |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| gcg | aga | gag | agg | gcg | att | cgg | gga | atc | agt | aga | tac | aat | tac | tac | atg | 336 |
| Ala | Arg | Glu | Arg | Ala | Ile | Arg | Gly | Ile | Ser | Arg | Tyr | Asn | Tyr | Tyr | Met | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|-----|
| gac | gtc | tgg | ggc | aag | ggg | acc | acg | gtc | acc | gtc | tcc | tca | | | | 375 |
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| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Ser | Leu | Arg | Leu | Ser | Cys | Ile | Ala | Ser | Gly | Phe | Thr | Leu | Arg | Asn | Tyr | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Ala | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Val | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Ala | Gly | Ile | Trp | Phe | Asp | Gly | Ser | Asn | Lys | Asn | Tyr | Ala | Asp | Ser | Val | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Lys | Gly | Arg | Phe | Thr | Ile | Ser | Arg | Asp | Asn | Ser | Lys | Asn | Thr | Leu | Phe | |
| | 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Leu | His | Met | Asn | Ser | Leu | Arg | Ala | Glu | Asp | Thr | Ala | Thr | Tyr | Tyr | Cys | |
| | | | 85 | | | | | | 90 | | | | | 95 | | |
| Ala | Arg | Glu | Arg | Ala | Ile | Arg | Gly | Ile | Ser | Arg | Tyr | Asn | Tyr | Tyr | Met | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Asp | Val | Trp | Gly | Lys | Gly | Thr | Thr | Val | Thr | Val | Ser | Ser | | | | |
| | | | 115 | | | | 120 | | | | | 125 | | | | |

<210> 15
 <211> 315
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(315)

| | | | | | | | | | | | | | | | | |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| <400> 15 | | | | | | | | | | | | | | | | |
| gtg | atg | acc | cag | tct | cca | tcc | tcc | ctg | tct | gca | tct | gta | gga | gac | aga | 48 |
| Val | Met | Thr | Gln | Ser | Pro | Ser | Ser | Leu | Ser | Ala | Ser | Val | Gly | Asp | Arg | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| gtc | acc | atc | act | tgc | cgg | gca | agt | cag | agc | att | cga | agc | tct | tta | aat | 96 |
| Val | Thr | Ile | Thr | Cys | Arg | Ala | Ser | Gln | Ser | Ile | Arg | Ser | Ser | Leu | Asn | |

| | 20 | 25 | 30 | |
|---|-----|-----|----|-----|
| tgg tat cag cag aaa cca ggg aaa gcc cct aaa gtc ctg atc tat gct | | | | 144 |
| Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Val Leu Ile Tyr Ala | 35 | 40 | 45 | |
| gca tcc agt ttg caa agt ggg gtc cca tcc agg ttc agt ggc aga gga | | | | 192 |
| Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Arg Gly | 50 | 55 | 60 | |
| tct ggg aca gat ttc act ctc acc atc agc agt ctg cag cct gaa gat | | | | 240 |
| Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp | 65 | 70 | 75 | 80 |
| ttt gcg act tat tat tgt caa cag agt tcc agt tcc tcg tgg acg ttc | | | | 288 |
| Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Ser Ser Ser Ser Trp Thr Phe | 85 | 90 | 95 | |
| ggc caa ggg acc aag gtg gaa atc aaa | | | | 315 |
| Gly Gln Gly Thr Lys Val Glu Ile Lys | 100 | 105 | | |

<210> 16
 <211> 105
 <212> PRT
 <213> Homo sapiens

| | |
|---|--|
| <400> 16 | |
| Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg | |
| 1 5 10 15 | |
| Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Arg Ser Ser Leu Asn | |
| 20 25 30 | |
| Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Val Leu Ile Tyr Ala | |
| 35 40 45 | |
| Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Arg Gly | |
| 50 55 60 | |
| Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp | |
| 65 70 75 80 | |
| Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Ser Ser Ser Ser Trp Thr Phe | |
| 85 90 95 | |
| Gly Gln Gly Thr Lys Val Glu Ile Lys | |
| 100 105 | |

<210> 17
 <211> 378
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1) .. (378)

<400> 17
cag gtg aaa ctg ctc gag tca gga gga ggc gtg gtc cag cct ggg aag 48
Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Lys
1 5 10 15

tcc ctg aga ctt tcc tgt gca gcg tct gga ttc agt ttc aat agc cat 96
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Asn Ser His
20 25 30

ggc atg cac tgg gtc cgc cag gct cca ggc aag ggg ctg gag tgg gtg 144
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

gca ttt ata tgg ttt gat ggc agt aat aaa tac tat gca gac tcc gtg 192
Ala Phe Ile Trp Phe Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

aag ggc cga ttc acc atc acc aga gac aac tcc aag aac acg ctg tat 240
Lys Gly Arg Phe Thr Ile Thr Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

ctg caa atg aac agc ctg aga gcc gag gac acg gct gtc tat tac tgt 288
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

gcg aga gag acc tca gta agg cta ggg tat agc cgc tac aat tac tac 336
Ala Arg Glu Thr Ser Val Arg Leu Gly Tyr Ser Arg Tyr Asn Tyr Tyr
100 105 110

atg gac gtc tgg ggc aaa ggg acc acg gtc acc atc tcg tca 378
Met Asp Val Trp Gly Lys Gly Thr Thr Val Thr Ile Ser Ser
115 120 125

<210> 18
<211> 126
<212> PRT
<213> Homo sapiens

<400> 18
Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Lys
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Asn Ser His
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Phe Ile Trp Phe Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Thr Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Thr Ser Val Arg Leu Gly Tyr Ser Arg Tyr Asn Tyr Tyr
100 105 110

Met Asp Val Trp Gly Lys Gly Thr Thr Val Thr Ile Ser Ser
 115 120 125

<210> 19
 <211> 318
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(318)

<400> 19
 gtg atg acc cag tct cca tcc tcc ctg tct gca tct gta gga gac aga 48
 Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
 1 5 10 15
 gtc acc atc act tgc cgg gca agt cag agc att agg agc cat ttg aat 96
 Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Arg Ser His Leu Asn
 20 25 30
 tgg tat cag cag aaa cca ggg aaa gcc cct aag ctg ctg atc tat gct 144
 Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ala
 35 40 45
 gca tcc agt ttg caa ggt ggg gtc cca tca agg ttc agt ggc agt gga 192
 Ala Ser Ser Leu Gln Gly Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
 50 55 60
 tct ggg aca gat ttc act ctg acc atc agc agt ctg caa cct gaa gat 240
 Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
 65 70 75 80
 ttt gca act tat tac tgt caa cag agt tac agg gcc cct cag tgg acg 288
 Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Arg Ala Pro Gln Trp Thr
 85 90 95
 ttc ggc caa ggg acc aag gtg gaa atc aaa 318
 Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 20
 <211> 106
 <212> PRT
 <213> Homo sapiens

<400> 20
 Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
 1 5 10 15
 Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Arg Ser His Leu Asn
 20 25 30
 Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ala
 35 40 45
 Ala Ser Ser Leu Gln Gly Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
 50 55 60

Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
65 70 75 80

Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Arg Ala Pro Gln Trp Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 21
<211> 375
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(375)

<400> 21
cag gtg aaa ctg ctc gag tct ggg gga ggc gtg gtc cag ccg ggg ggg 48
Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 5 10 15

tcc ctg aga ctc tcc tgt gta gcg tct gga ttc acc ctc agg agt tat 96
Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Leu Arg Ser Tyr
20 25 30

ggc atg cac tgg gtc cgc cag gct cca ggc aag ggc ctg gag tgg gtg 144
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

gct ttt ata tgg ttt gat gga agt aat aaa gga tat gta gac tcc gtg 192
Ala Phe Ile Trp Phe Asp Gly Ser Asn Lys Gly Tyr Val Asp Ser Val
50 55 60

aag ggc cga ttc acc atc tcc cga gac aat tcc aag aac atg gtc tat 240
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Met Val Tyr
65 70 75 80

ctg caa atg aac agc ctg aga gcc gat gac acg gct gta tat tat tgt 288
Leu Gln Met Asn Ser Leu Arg Ala Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

gcg aga gag aag gcg ctt cgg gga atc agc aga tac aac tat tac ctg 336
Ala Arg Glu Lys Ala Leu Arg Gly Ile Ser Arg Tyr Asn Tyr Tyr Leu
100 105 110

gac gtc tgg ggc aag ggg acc acg gtc acc gtc tcc tca 375
Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 22
<211> 125
<212> PRT
<213> Homo sapiens

<400> 22

Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Leu Arg Ser Tyr
 20 25 30
 Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Phe Ile Trp Phe Asp Gly Ser Asn Lys Gly Tyr Val Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Met Val Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Glu Lys Ala Leu Arg Gly Ile Ser Arg Tyr Asn Tyr Tyr Leu
 100 105 110
 Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
 115 120 125

<210> 23
 <211> 333
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(333)

<400> 23
 gtg gtg act cag cca ccc tca gcg tct ggg acc ccc gga cag agg gtc 48
 Val Val Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln Arg Val 15
 1 5 10
 acc atc tct tgt tct gga agc aac tcc atc ctt gga agt aag tat gta 96
 Thr Ile Ser Cys Ser Gly Ser Asn Ser Ile Leu Gly Ser Lys Tyr Val 30
 20 25 30
 tac tgg tac cag aaa ctc cca gga acg gcc ccc aaa ctc ctc atc tat 144
 Tyr Trp Tyr Gln Lys Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile Tyr 45
 35 40 45
 aag aat gat cag cgg ccc tca ggg gtc tct gac cga ttc tct ggc tcc 192
 Lys Asn Asp Gln Arg Pro Ser Gly Val Ser Asp Arg Phe Ser Gly Ser 60
 50 55 60
 aag tct ggc acc tcg gcc tcc ctg gcc atc agt ggg ctc cgg tcc gag 240
 Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg Ser Glu 80
 65 70 75 80
 gat gag gct gac tat tac tgt gca cca tgg gat gcc aac ctg ggt ggc 288
 Asp Glu Ala Asp Tyr Tyr Cys Ala Pro Trp Asp Ala Asn Leu Gly Gly 95
 85 90 95
 ccg gtg ttc ggc gga ggg acc aag ctg acc gtc cta agt cag ccc 333

Pro Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Ser Gln Pro
 100 105 110

<210> 24
 <211> 111
 <212> PRT
 <213> Homo sapiens

<400> 24
 Val Val Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln Arg Val
 1 5 10 15
 Thr Ile Ser Cys Ser Gly Ser Asn Ser Ile Leu Gly Ser Lys Tyr Val
 20 25 30
 Tyr Trp Tyr Gln Lys Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile Tyr
 35 40 45
 Lys Asn Asp Gln Arg Pro Ser Gly Val Ser Asp Arg Phe Ser Gly Ser
 50 55 60
 Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg Ser Glu
 65 70 75 80
 Asp Glu Ala Asp Tyr Tyr Cys Ala Pro Trp Asp Ala Asn Leu Gly Gly
 85 90 95
 Pro Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Ser Gln Pro
 100 105 110

<210> 25
 <211> 375
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(375)

<400> 25
 cag gtg aaa ctg ctg gag tcg ggg gga ggc gtg gtc cag ccg ggg ggg 48
 Gln Val Lys Leu Leu Glu Ser Gly Gly Val Val Gln Pro Gly Gly
 1 5 10 15
 tcc ctg aga ctg tcc tgt gaa gcg tct gga ttc acc ctg aga agt tct 96
 Ser Leu Arg Leu Ser Cys Glu Ala Ser Gly Phe Thr Leu Arg Ser Ser
 20 25 30
 ggc atg cac tgg gtc cgc cag gct cct ggc aag ggg ctg gag tgg gtg 144
 Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 gca ctt ata tgg ttt gat gga agt atc aga tcg tat gca gaa tcc gtg 192
 Ala Leu Ile Trp Phe Asp Gly Ser Ile Arg Ser Tyr Ala Glu Ser Val
 50 55 60
 aag ggc cga ttc acc atc tcc aga gac act tcc aag aac acc cta tat 240
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Thr Ser Lys Asn Thr Leu Tyr

| | |
|---|-----|
| gtc acc atc act tgc cgg aca agt cag acc att agc aga aat tta aat | 96 |
| Val Thr Ile Thr Cys Arg Thr Ser Gln Thr Ile Ser Arg Asn Leu Asn | |
| 20 25 30 | |
| | |
| tgg tat cag cag aaa cca ggg aaa gcc cct aag ctc ctg atc tat gct | 144 |
| Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ala | |
| 35 40 45 | |
| | |
| aca tcc agt ttg caa agt ggg gtc cca tca agg ttc agt ggc agt gga | 192 |
| Thr Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly | |
| 50 55 60 | |
| | |
| tct ggg aca gat ttc act ctc acc atc aat agt cta caa cct gaa gat | 240 |
| Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Gln Pro Glu Asp | |
| 65 70 75 80 | |
| | |
| ttt gca act tac tac tgt caa cag agt tac act acc cct tcg ttc ggc | 288 |
| Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Thr Thr Pro Ser Phe Gly | |
| 85 90 95 | |
| | |
| caa ggg acc aag gtg gaa atc aaa | 312 |
| Gln Gly Thr Lys Val Glu Ile Lys | |
| 100 | |

<210> 28
 <211> 104
 <212> PRT
 <213> Homo sapiens

| | |
|---|--|
| <400> 28 | |
| Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg | |
| 1 5 10 15 | |
| | |
| Val Thr Ile Thr Cys Arg Thr Ser Gln Thr Ile Ser Arg Asn Leu Asn | |
| 20 25 30 | |
| | |
| Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ala | |
| 35 40 45 | |
| | |
| Thr Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly | |
| 50 55 60 | |
| | |
| Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Gln Pro Glu Asp | |
| 65 70 75 80 | |
| | |
| Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Thr Thr Pro Ser Phe Gly | |
| 85 90 95 | |
| | |
| Gln Gly Thr Lys Val Glu Ile Lys | |
| 100 | |

<210> 29
 <211> 375
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS

<222> (1) .. (375)

<400> 29

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| cag | gtg | aaa | ctg | ctc | gag | tct | ggg | gga | ggc | ttg | gtc | cag | ccg | ggg | ggg | 48 |
| Gln | Val | Lys | Leu | Leu | Glu | Ser | Gly | Gly | Gly | Leu | Val | Gln | Pro | Gly | Gly | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| tcc | ctg | aga | ctc | tcc | tgt | gta | gcg | tct | gga | ttc | acc | ttc | agg | agt | tat | 96 |
| Ser | Leu | Arg | Leu | Ser | Cys | Val | Ala | Ser | Gly | Phe | Thr | Phe | Arg | Ser | Tyr | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| ggc | atg | cac | tgg | gtc | cg | cag | gct | cca | ggc | aag | ggc | ctg | gag | tgg | gtg | 144 |
| Gly | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Val | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| gct | ttt | ata | tgg | ttt | gat | gga | agt | aat | aaa | gga | tat | gta | gac | tcc | gtg | 192 |
| Ala | Phe | Ile | Trp | Phe | Asp | Gly | Ser | Asn | Lys | Gly | Tyr | Val | Asp | Ser | Val | |
| | | 50 | | | | 55 | | | | | 60 | | | | | |
| aag | ggc | cga | ttc | acc | atc | tcc | cga | gac | aat | tcc | aag | aac | atg | ctc | tat | 240 |
| Lys | Gly | Arg | Phe | Thr | Ile | Ser | Arg | Asp | Asn | Ser | Lys | Asn | Met | Leu | Tyr | |
| | 65 | | | | 70 | | | | 75 | | | | | 80 | | |
| ctg | caa | atg | aat | agc | ctg | aga | gcc | gag | gac | acg | gct | gta | tat | tat | tgt | 288 |
| Leu | Gln | Met | Asn | Ser | Leu | Arg | Ala | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| gcg | aga | gag | aag | gcg | ctt | cgg | gga | atc | agt | aga | tac | aac | tat | tac | ctg | 336 |
| Ala | Arg | Glu | Lys | Ala | Leu | Arg | Gly | Ile | Ser | Arg | Tyr | Asn | Tyr | Tyr | Leu | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| gac | gtc | tgg | ggc | aag | ggg | gcc | acg | gtc | acc | gtc | tcc | tca | | | | 375 |
| Asp | Val | Trp | Gly | Lys | Gly | Ala | Thr | Val | Thr | Val | Ser | Ser | | | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |

<210> 30

<211> 125

<212> PRT

<213> Homo sapiens

<400> 30

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Val | Lys | Leu | Leu | Glu | Ser | Gly | Gly | Gly | Leu | Val | Gln | Pro | Gly | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Leu | Arg | Leu | Ser | Cys | Val | Ala | Ser | Gly | Phe | Thr | Phe | Arg | Ser | Tyr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Val |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Phe | Ile | Trp | Phe | Asp | Gly | Ser | Asn | Lys | Gly | Tyr | Val | Asp | Ser | Val |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Lys | Gly | Arg | Phe | Thr | Ile | Ser | Arg | Asp | Asn | Ser | Lys | Asn | Met | Leu | Tyr |
| | 65 | | | | 70 | | | | 75 | | | | | 80 | |
| Leu | Gln | Met | Asn | Ser | Leu | Arg | Ala | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ala | Arg | Glu | Lys | Ala | Leu | Arg | Gly | Ile | Ser | Arg | Tyr | Asn | Tyr | Tyr | Leu |

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 100 | | 105 | | 110 | | | | | | | |
| Asp | Val | Trp | Gly | Lys | Gly | Ala | Thr | Val | Thr | Val | Ser | Ser |
| | 115 | | | | | | 120 | | | | | 125 |

<210> 31
 <211> 318
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(318)

| | |
|---|-----|
| <400> 31 | |
| gtg atg acc cag tct cca tcc tcc ctg tct gca tct ata ggc gac aga | 48 |
| Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Ile Gly Asp Arg | |
| 1 5 10 15 | |
| gtc acc atc act tgc cgg gca agt cag agc gtt acc agg tct tta aat | 96 |
| Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Val Thr Arg Ser Leu Asn | |
| 20 25 30 | |
| tgg tat cag cag aaa cca ggg aaa gcc cct agg ctc cta atc ttt gct | 144 |
| Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile Phe Ala | |
| 35 40 45 | |
| gcg tcc act ttg caa agt ggg gtc cca tca agg ttc agt ggc agt gga | 192 |
| Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly | |
| 50 55 60 | |
| tct ggg aca gat ttc acc ctc acc atc agc agt ctg caa cct gag gat | 240 |
| Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp | |
| 65 70 75 80 | |
| ttt gga act tac tac tgt caa cag aat tac agg acc cct cag tgg acg | 288 |
| Phe Gly Thr Tyr Tyr Cys Gln Gln Asn Tyr Arg Thr Pro Gln Trp Thr | |
| 85 90 95 | |
| ttc ggc caa ggg acc aag gta gaa atc aaa | 318 |
| Phe Gly Gln Gly Thr Lys Val Glu Ile Lys | |
| 100 105 | |

<210> 32
 <211> 106
 <212> PRT
 <213> Homo sapiens

| | |
|---|--|
| <400> 32 | |
| Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Ile Gly Asp Arg | |
| 1 5 10 15 | |
| Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Val Thr Arg Ser Leu Asn | |
| 20 25 30 | |
| Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile Phe Ala | |
| 35 40 45 | |

Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
50 55 60

Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
65 70 75 80

Phe Gly Thr Tyr Tyr Cys Gln Gln Asn Tyr Arg Thr Pro Gln Trp Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 33
<211> 378
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(378)

<400> 33
cag gtg aaa ctg ctc gag tct ggg gga ggc gtg gtc cag ccg ggg ggg 48
Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 5 10 15

tcc ctg aga ctc tcc tgt gta gcg tct gga ttc acc ctc agg agt tat 96
Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Leu Arg Ser Tyr
20 25 30

ggc atg cac tgg gtc cgc cag gct cca ggc aag ggc ctg gag tgg gtg 144
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

gct ttt ata tgg ttt gat gga agt aat aaa gga tat gta gac tcc gtg 192
Ala Phe Ile Trp Phe Asp Gly Ser Asn Lys Gly Tyr Val Asp Ser Val
50 55 60

aag ggc cga ttc acc atc tcc cga gac aat tcc aag aac atg gtc tat 240
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Met Val Tyr
65 70 75 80

ctg caa atg aac agc ctg aga gcc gat gac acg gct gta tat tat tat 288
Leu Gln Met Asn Ser Leu Arg Ala Asp Asp Thr Ala Val Tyr Tyr Tyr
85 90 95

tgt gcg aga gag aag gcg ctt cgg gga atc agc aga tac aac tat tac 336
Cys Ala Arg Glu Lys Ala Leu Arg Gly Ile Ser Arg Tyr Asn Tyr Tyr
100 105 110

ctg gac gtc tgg ggc aag ggg acc acg gtc acc gtc tcc tca 378
Leu Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 34
<211> 126
<212> PRT
<213> Homo sapiens

<400> 34

Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Leu Arg Ser Tyr
20 25 30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ala Phe Ile Trp Phe Asp Gly Ser Asn Lys Gly Tyr Val Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Met Val Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Asp Asp Thr Ala Val Tyr Tyr Tyr
85 90 95
Cys Ala Arg Glu Lys Ala Leu Arg Gly Ile Ser Arg Tyr Asn Tyr Tyr
100 105 110
Leu Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 35

<211> 333

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(333)

<400> 35

gtg gtg act cag gag ccc tca ctg act gtg tcc cca gga ggg aca gtc 48
Val Val Thr Gln Glu Pro Ser Leu Thr Val Ser Pro Gly Gly Thr Val
1 5 10 15
act ctc acc tgt gct tcc agc act ggg gca gtc acc agg ggt tac tat 96
Thr Leu Thr Cys Ala Ser Ser Thr Gly Ala Val Thr Arg Gly Tyr Tyr
20 25 30
cca aac tgg ttc cag cag aag cct gga caa gca ccc agg gca ctg att 144
Pro Asn Trp Phe Gln Gln Lys Pro Gly Gln Ala Pro Arg Ala Leu Ile
35 40 45
tat agt aca aac aaa aaa cac tcc tgg acc cct gcc cgg ttc tca ggc 192
Tyr Ser Thr Asn Lys Lys His Ser Trp Thr Pro Ala Arg Phe Ser Gly
50 55 60
tcc ctc ctt ggg ggc aaa gct gcc ctg aca ctg tca ggt gtg cag cct 240
Ser Leu Leu Gly Gly Lys Ala Ala Leu Thr Leu Ser Gly Val Gln Pro
65 70 75 80
gaa gac gag gct gaa tat tac tgc ctg ctc tac tat ggt ggt gct caa 288
Glu Asp Glu Ala Glu Tyr Tyr Cys Leu Leu Tyr Tyr Gly Gly Ala Gln
85 90 95

ctc gta ttc ggc gga ggg acc aag ctg acc gtc cta cgt cag ccc
 Leu Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Arg Gln Pro
 100 105 110

333

<210> 36
 <211> 111
 <212> PRT
 <213> Homo sapiens

<400> 36
 Val Val Thr Gln Glu Pro Ser Leu Thr Val Ser Pro Gly Gly Thr Val
 1 5 10 15
 Thr Leu Thr Cys Ala Ser Ser Thr Gly Ala Val Thr Arg Gly Tyr Tyr
 20 25 30
 Pro Asn Trp Phe Gln Gln Lys Pro Gly Gln Ala Pro Arg Ala Leu Ile
 35 40 45
 Tyr Ser Thr Asn Lys Lys His Ser Trp Thr Pro Ala Arg Phe Ser Gly
 50 55 60
 Ser Leu Leu Gly Gly Lys Ala Ala Leu Thr Leu Ser Gly Val Gln Pro
 65 70 75 80
 Glu Asp Glu Ala Glu Tyr Tyr Cys Leu Leu Tyr Tyr Gly Gly Ala Gln
 85 90 95
 Leu Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Arg Gln Pro
 100 105 110

<210> 37
 <211> 375
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(375)

<400> 37
 cag gtg aaa ctg ctc gag tcg ggg gga ggc gtg gtc cag ccg ggg ggg 48
 Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
 1 5 10 15
 tcc ctg aga ctc tcc tgt gaa gcg tct gga ttc acc ctc aga agt tct 96
 Ser Leu Arg Leu Ser Cys Glu Ala Ser Gly Phe Thr Leu Arg Ser Ser
 20 25 30
 ggc atg cac tgg gtc cgc cag gct cct ggc aag ggg ctg gag tgg gtg 144
 Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 gca ctt ata tgg ttt gat gga agt atc aga tcg tat gca gaa tcc gtg 192
 Ala Leu Ile Trp Phe Asp Gly Ser Ile Arg Ser Tyr Ala Glu Ser Val
 50 55 60

aag ggc cga ttc acc atc tcc aga gac act tcc aag aac acc cta tat 240
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Thr Ser Lys Asn Thr Leu Tyr
 65 70 75 80

ctc caa atg cgc agt ctg agt gcc gac gac acg gct gtg tat tac tgt 288
 Leu Gln Met Arg Ser Leu Ser Ala Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

gcg aga gac aag gcg gtt cgg gga att agc agg tac aac tat tac atg 336
 Ala Arg Asp Lys Ala Val Arg Gly Ile Ser Arg Tyr Asn Tyr Tyr Met
 100 105 110

gac gtc tgg ggc aaa ggg acc acg gtc acc gtc tcc tca 375
 Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
 115 120 125

<210> 38
 <211> 125
 <212> PRT
 <213> Homo sapiens

<400> 38
 Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Glu Ala Ser Gly Phe Thr Leu Arg Ser Ser
 20 25 30
 Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Leu Ile Trp Phe Asp Gly Ser Ile Arg Ser Tyr Ala Glu Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Thr Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Arg Ser Leu Ser Ala Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Asp Lys Ala Val Arg Gly Ile Ser Arg Tyr Asn Tyr Tyr Met
 100 105 110
 Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
 115 120 125

<210> 39
 <211> 315
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(315)

<400> 39
 gtg ttg acc cag tct cca tcc tcc ctg tct gca tct ata cga gac aga 48
 Val Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Ile Arg Asp Arg

| 1 | 5 | 10 | 15 | |
|---|-----|----|----|--|
| gtc acc atc act tgc cgg gca agt cag aac att ggc agt tat tta aat | 96 | | | |
| Val Thr Ile Thr Cys Arg Ala Ser Gln Asn Ile Gly Ser Tyr Leu Asn | | | | |
| 20 25 30 | | | | |
| tgg tat cag cac aaa cca ggg aca gcc cct aaa ctg ctg atc tat gct | 144 | | | |
| Trp Tyr Gln His Lys Pro Gly Thr Ala Pro Lys Leu Leu Ile Tyr Ala | | | | |
| 35 40 45 | | | | |
| gta tcc gct ttg caa agt ggg gtc cca tcg agg ttc agt ggc agt aga | 192 | | | |
| Val Ser Ala Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg | | | | |
| 50 55 60 | | | | |
| tct ggg aca gat ttc act ctg acc atc agc agt ctg caa cct gaa gat | 240 | | | |
| Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp | | | | |
| 65 70 75 80 | | | | |
| ttt gca act tac tac tgt caa cag agt tac agt ccc ccg tac act ttc | 288 | | | |
| Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Pro Pro Tyr Thr Phe | | | | |
| 85 90 95 | | | | |
| ggc cag ggg acc aac ctg cag atc aaa | 315 | | | |
| Gly Gln Gly Thr Asn Leu Gln Ile Lys | | | | |
| 100 105 | | | | |

<210> 40
 <211> 105
 <212> PRT
 <213> Homo sapiens

| |
|---|
| <400> 40 |
| Val Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Ile Arg Asp Arg |
| 1 5 10 15 |
| Val Thr Ile Thr Cys Arg Ala Ser Gln Asn Ile Gly Ser Tyr Leu Asn |
| 20 25 30 |
| Trp Tyr Gln His Lys Pro Gly Thr Ala Pro Lys Leu Leu Ile Tyr Ala |
| 35 40 45 |
| Val Ser Ala Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg |
| 50 55 60 |
| Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp |
| 65 70 75 80 |
| Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Pro Pro Tyr Thr Phe |
| 85 90 95 |
| Gly Gln Gly Thr Asn Leu Gln Ile Lys |
| 100 105 |

<210> 41
 <211> 375
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(375)

<400> 41
 cag gtg aaa ctg ctc gag tct ggg gga ggc gtg gtc cag ccg ggg ggg 48
 Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
 1 5 10 15
 tcc ctg aga gtc gcc tgt gta gcg tct gga ttc acc ttc agg aat ttt 96
 Ser Leu Arg Val Ala Cys Val Ala Ser Gly Phe Thr Phe Arg Asn Phe
 20 25 30
 ggc atg cac tgg gtc cgc cag gct cca ggc aag ggg ctg gag tgg gtg 144
 Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 gct ttt att tgg ttt gat gca agt aat aaa gga tat gga gac tcc gtt 192
 Ala Phe Ile Trp Phe Asp Ala Ser Asn Lys Gly Tyr Gly Asp Ser Val
 50 55 60
 aag ggc cga ttc acc gtc tcc aga gac aat tcc aag aac acg ctc tat 240
 Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 ctg caa atg aac ggc ctg aga gcc gaa gac acg gct gta tat tat tgt 288
 Leu Gln Met Asn Gly Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 gcg aga gag aag gcg gtt cgg gga att agt aga tac aac tac tac atg 336
 Ala Arg Glu Lys Ala Val Arg Gly Ile Ser Arg Tyr Asn Tyr Tyr Met
 100 105 110
 gac gtc tgg ggc aag ggg acc acg gtc acc gtc tcc tca 375
 Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
 115 120 125

<210> 42
 <211> 125
 <212> PRT
 <213> Homo sapiens

<400> 42
 Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Val Ala Cys Val Ala Ser Gly Phe Thr Phe Arg Asn Phe
 20 25 30
 Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Phe Ile Trp Phe Asp Ala Ser Asn Lys Gly Tyr Gly Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Gly Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Glu Lys Ala Val Arg Gly Ile Ser Arg Tyr Asn Tyr Tyr Met
 100 105 110

Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
 115 120 125

<210> 43
 <211> 315
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(315)

<400> 43
 gtg atg acc cag tct cca tcc tcc ctg tct gca tct gtg gga gac aga 48
 Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
 1 5 10 15
 gtc acc atc act tgc cgg gca agt cag agc att atc aac aat tta aat 96
 Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ile Asn Asn Leu Asn
 20 25 30
 tgg tat cag cag aaa cca ggc aaa gcc cct gaa ctc ctg atc tat gct 144
 Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Glu Leu Leu Ile Tyr Ala
 35 40 45
 gca tcc agt ttg caa agt ggg gtc cct tca agg ttc cgt ggc agt gga 192
 Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Arg Gly Ser Gly
 50 55 60
 tct ggg aga gat ttc act ctc acc gtc acc agt ctg caa cct gaa gat 240
 Ser Gly Arg Asp Phe Thr Leu Thr Val Thr Ser Leu Gln Pro Glu Asp
 65 70 75 80
 ttt gca act tac tac tgt caa cag agt tac agt acc ctg tgg acg ttc 288
 Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Leu Trp Thr Phe
 85 90 95
 ggc caa ggg acc aag gtg gaa atc aaa 315
 Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 44
 <211> 105
 <212> PRT
 <213> Homo sapiens

<400> 44
 Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
 1 5 10 15
 Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ile Asn Asn Leu Asn
 20 25 30
 Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Glu Leu Leu Ile Tyr Ala

| | | |
|---|-----|----|
| 35 | 40 | 45 |
| Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Arg Gly Ser Gly | | |
| 50 | 55 | 60 |
| Ser Gly Arg Asp Phe Thr Leu Thr Val Thr Ser Leu Gln Pro Glu Asp | | |
| 65 | 70 | 75 |
| Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Leu Trp Thr Phe | | |
| 85 | 90 | 95 |
| Gly Gln Gly Thr Lys Val Glu Ile Lys | | |
| 100 | 105 | |

<210> 45
 <211> 375
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1) .. (375)

| | |
|---|-----|
| <400> 45 | |
| cag gtg aaa ctg ctc gag tct ggg gga ggc gtg gtc cag ccg ggg ggg | 48 |
| Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly | |
| 1 5 10 15 | |
| tcc ctg aga ctc tcc tgt gta gcg tct gga ttc acc ttc agg agt tat | 96 |
| Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Arg Ser Tyr | |
| 20 25 30 | |
| ggc atg cac tgg gtc cgc cag gct cca ggc aag ggc ctg gag tgg gtg | 144 |
| Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val | |
| 35 40 45 | |
| gct ttt ata tgg ttt gat gga agt aat aaa gga tat gta gac tcc gtg | 192 |
| Ala Phe Ile Trp Phe Asp Gly Ser Asn Lys Gly Tyr Val Asp Ser Val | |
| 50 55 60 | |
| aag ggc cga ttc acc atc tcc cga gac aat tcc aag aac acg ctc tat | 240 |
| Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr | |
| 65 70 75 80 | |
| ctg caa atg aag agc ctg aga gcc gag gac acg gct gta tat tat tgt | 288 |
| Leu Gln Met Lys Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys | |
| 85 90 95 | |
| gcg aga gag aag gcg ctt cgg gga atc agt aga tac aac tat tac ctg | 336 |
| Ala Arg Glu Lys Ala Leu Arg Gly Ile Ser Arg Tyr Asn Tyr Tyr Leu | |
| 100 105 110 | |
| gac gtc tgg ggc aag ggg acc acg gtc acc gtc tcc tca | 375 |
| Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser | |
| 115 120 125 | |

<210> 46
 <211> 125

<212> PRT

<213> Homo sapiens

<400> 46

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Gln | Val | Lys | Leu | Leu | Glu | Ser | Gly | Gly | Gly | Val | Val | Gln | Pro | Gly | Gly | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Ser | Leu | Arg | Leu | Ser | Cys | Val | Ala | Ser | Gly | Phe | Thr | Phe | Arg | Ser | Tyr | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Gly | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Val | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Ala | Phe | Ile | Trp | Phe | Asp | Gly | Ser | Asn | Lys | Gly | Tyr | Val | Asp | Ser | Val | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Lys | Gly | Arg | Phe | Thr | Ile | Ser | Arg | Asp | Asn | Ser | Lys | Asn | Thr | Leu | Tyr | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Leu | Gln | Met | Lys | Ser | Leu | Arg | Ala | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Ala | Arg | Glu | Lys | Ala | Leu | Arg | Gly | Ile | Ser | Arg | Tyr | Asn | Tyr | Tyr | Leu | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Asp | Val | Trp | Gly | Lys | Gly | Thr | Thr | Val | Thr | Val | Ser | Ser | | | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |

<210> 47

<211> 315

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(315)

<400> 47

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| gtg | atg | acc | cag | tct | cca | ttc | tcc | ctg | tct | gca | tct | gta | gga | gac | aga | 48 |
| Val | Met | Thr | Gln | Ser | Pro | Phe | Ser | Leu | Ser | Ala | Ser | Val | Gly | Asp | Arg | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| gtc | acc | atc | act | tgc | cgg | gca | agt | cag | aac | att | agg | agt | ttt | tta | agt | 96 |
| Val | Thr | Ile | Thr | Cys | Arg | Ala | Ser | Gln | Asn | Ile | Arg | Ser | Phe | Leu | Ser | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| tgg | tat | cag | cag | aaa | cca | ggg | aca | gcc | cct | aag | ctc | ctg | atc | tat | gct | 144 |
| Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Thr | Ala | Pro | Lys | Leu | Leu | Ile | Tyr | Ala | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| gca | tcc | agg | ttg | caa | agt | ggg | gtc | cca | tca | agg | ttc | agt | ggc | agt | ggg | 192 |
| Ala | Ser | Arg | Leu | Gln | Ser | Gly | Val | Pro | Ser | Arg | Phe | Ser | Gly | Ser | Gly | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| tct | ggg | aca | gat | ttc | act | ctc | acc | atc | agc | act | ctg | caa | cct | gaa | gat | 240 |
| Ser | Gly | Thr | Asp | Phe | Thr | Leu | Thr | Ile | Ser | Thr | Leu | Gln | Pro | Glu | Asp | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| ttt | gcg | act | tac | tac | tgt | caa | cag | agt | tac | agt | gcc | cct | tgg | acg | ttc | 288 |

Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Ala Pro Trp Thr Phe
85 90 95

ggc caa ggg acc aag ctg gaa atc aaa
Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

315

<210> 48
<211> 105
<212> PRT
<213> Homo sapiens

<400> 48
Val Met Thr Gln Ser Pro Phe Ser Leu Ser Ala Ser Val Gly Asp Arg
1 5 10 15
Val Thr Ile Thr Cys Arg Ala Ser Gln Asn Ile Arg Ser Phe Leu Ser
20 25 30
Trp Tyr Gln Gln Lys Pro Gly Thr Ala Pro Lys Leu Leu Ile Tyr Ala
35 40 45
Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
50 55 60
Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Thr Leu Gln Pro Glu Asp
65 70 75 80
Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Ala Pro Trp Thr Phe
85 90 95
Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 49
<211> 375
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(375)

<400> 49
cag gtg aaa ctg ctc gag tct ggg gga ggc gtg gtc cag ccg ggg ggg 48
Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 5 10 15
tcc ctg aga ctc tcc tgt gta gcg tct gga ttc acc tcc agg agt tat 96
Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Ser Arg Ser Tyr
20 25 30
ggc atg cac tgg gtc cgc cag gct cca ggc aag ggc ctg gag tgg gtg 144
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
gct ttt ata tgg ttt gat gga agt aat aaa gga tat gta gac tcc gtg 192
Ala Phe Ile Trp Phe Asp Gly Ser Asn Lys Gly Tyr Val Asp Ser Val

| 50 | 55 | 60 | |
|---|-----|-----|-----|
| aag ggc cga ttc acc atc tcc cga gac aat tcc aag aac acg ctc tat | | | 240 |
| Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr | | | |
| 65 | 70 | 75 | 80 |
| ctg caa atg aag agc ctg aga gcc gag gac acg gct gta tat tat tgt | | | 288 |
| Leu Gln Met Lys Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys | | | |
| | 85 | 90 | 95 |
| gcg aga gag aag gcg ctt cgg gga atc agt aga tac aac tat tac ctg | | | 336 |
| Ala Arg Glu Lys Ala Leu Arg Gly Ile Ser Arg Tyr Asn Tyr Leu | | | |
| | 100 | 105 | 110 |
| gac gtc tgg ggc aag ggg acc acg gtc acc gtc tcc tca | | | 375 |
| Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser | | | |
| | 115 | 120 | 125 |

<210> 50
 <211> 125
 <212> PRT
 <213> Homo sapiens

| | |
|---|-------------|
| <400> 50 | |
| Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly | |
| 1 | 5 10 15 |
| Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Ser Arg Ser Tyr | |
| | 20 25 30 |
| Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val | |
| | 35 40 45 |
| Ala Phe Ile Trp Phe Asp Gly Ser Asn Lys Gly Tyr Val Asp Ser Val | |
| | 50 55 60 |
| Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr | |
| | 65 70 75 80 |
| Leu Gln Met Lys Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys | |
| | 85 90 95 |
| Ala Arg Glu Lys Ala Leu Arg Gly Ile Ser Arg Tyr Asn Tyr Tyr Leu | |
| | 100 105 110 |
| Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser | |
| | 115 120 125 |

<210> 51
 <211> 315
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1) .. (315)
 <400> 51

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| gtg | atg | acc | cag | tct | cca | tcc | tcc | ctg | tct | gca | tct | gta | gga | gac | aga | 48 |
| Val | Met | Thr | Gln | Ser | Pro | Ser | Ser | Leu | Ser | Ala | Ser | Val | Gly | Asp | Arg | |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | | |
| | | | | | | | | | | | | | | | | |
| gtc | acc | atc | act | tgc | cgg | gca | agt | cag | agc | att | agc | agc | tat | tta | aat | 96 |
| Val | Thr | Ile | Thr | Cys | Arg | Ala | Ser | Gln | Ser | Ile | Ser | Ser | Tyr | Leu | Asn | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| | | | | | | | | | | | | | | | | |
| tgg | tat | cag | cag | aaa | cca | ggg | aaa | gcc | cct | aag | ctc | ctg | atc | tat | gct | 144 |
| Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Lys | Ala | Pro | Lys | Leu | Leu | Ile | Tyr | Ala | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| | | | | | | | | | | | | | | | | |
| gca | tcc | agt | ttg | caa | agt | ggg | gtc | cca | tca | agg | ttc | agt | ggc | agt | gga | 192 |
| Ala | Ser | Ser | Leu | Gln | Ser | Gly | Val | Pro | Ser | Arg | Phe | Ser | Gly | Ser | Gly | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| | | | | | | | | | | | | | | | | |
| tct | ggg | aca | gat | ttc | act | ctc | acc | atc | agc | agt | ctg | caa | cct | gaa | gat | 240 |
| Ser | Gly | Thr | Asp | Phe | Thr | Leu | Thr | Ile | Ser | Ser | Leu | Gln | Pro | Glu | Asp | |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | | |
| | | | | | | | | | | | | | | | | |
| ttt | gca | act | tac | tac | tgt | caa | cag | agt | tac | agt | acc | cga | ttc | act | ttc | 288 |
| Phe | Ala | Thr | Tyr | Tyr | Cys | Gln | Gln | Ser | Tyr | Ser | Thr | Arg | Phe | Thr | Phe | |
| | | | | 85 | | | | 90 | | | | | 95 | | | |
| | | | | | | | | | | | | | | | | |
| ggc | cct | ggg | acc | aaa | gtg | gat | atc | aaa | | | | | | | | 315 |
| Gly | Pro | Gly | Thr | Lys | Val | Asp | Ile | Lys | | | | | | | | |
| | | | 100 | | | | | 105 | | | | | | | | |

<210> 52
 <211> 105
 <212> PRT
 <213> Homo sapiens

| | | | | | | | | | | | | | | | | |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> 52 | | | | | | | | | | | | | | | | |
| Val | Met | Thr | Gln | Ser | Pro | Ser | Ser | Leu | Ser | Ala | Ser | Val | Gly | Asp | Arg | |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | | |
| | | | | | | | | | | | | | | | | |
| Val | Thr | Ile | Thr | Cys | Arg | Ala | Ser | Gln | Ser | Ile | Ser | Ser | Tyr | Leu | Asn | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| | | | | | | | | | | | | | | | | |
| Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Lys | Ala | Pro | Lys | Leu | Leu | Ile | Tyr | Ala | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| | | | | | | | | | | | | | | | | |
| Ala | Ser | Ser | Leu | Gln | Ser | Gly | Val | Pro | Ser | Arg | Phe | Ser | Gly | Ser | Gly | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| | | | | | | | | | | | | | | | | |
| Ser | Gly | Thr | Asp | Phe | Thr | Leu | Thr | Ile | Ser | Ser | Leu | Gln | Pro | Glu | Asp | |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | | |
| | | | | | | | | | | | | | | | | |
| Phe | Ala | Thr | Tyr | Tyr | Cys | Gln | Gln | Ser | Tyr | Ser | Thr | Arg | Phe | Thr | Phe | |
| | | | | 85 | | | | 90 | | | | | 95 | | | |
| | | | | | | | | | | | | | | | | |
| Gly | Pro | Gly | Thr | Lys | Val | Asp | Ile | Lys | | | | | | | | |
| | | | 100 | | | | | 105 | | | | | | | | |

<210> 53
 <211> 384
 <212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(384)

<400> 53

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| cag | gtg | aaa | ctg | ctc | gag | tct | ggg | gga | ggc | gtg | gtc | cag | cct | ggg | agg | 48 |
| Gln | Val | Lys | Leu | Leu | Glu | Ser | Gly | Gly | Gly | Val | Val | Gln | Pro | Gly | Arg | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| tcc | ctg | aga | ctt | tcc | tgt | gca | gcg | tct | gga | ttt | acc | ttc | agt | agc | tat | 96 |
| Ser | Leu | Arg | Leu | Ser | Cys | Ala | Ala | Ser | Gly | Phe | Thr | Phe | Ser | Ser | Tyr | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| ggc | atg | cac | tgg | gtc | cgc | cag | gct | cca | ggc | aag | ggg | ctg | gag | tgg | gtg | 144 |
| Gly | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Val | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| gca | gat | ata | tgg | ttt | gat | gga | ggg | aat | aaa | cat | tat | gca | gac | ttc | gtg | 192 |
| Ala | Asp | Ile | Trp | Phe | Asp | Gly | Gly | Asn | Lys | His | Tyr | Ala | Asp | Phe | Val | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| aag | ggc | cga | ttc | acc | atc | tcc | aga | gac | aat | tcc | aag | aac | acg | gtg | tat | 240 |
| Lys | Gly | Arg | Phe | Thr | Ile | Ser | Arg | Asp | Asn | Ser | Lys | Asn | Thr | Val | Tyr | |
| | 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| cta | caa | atg | aac | agc | ctg | aga | gtc | gag | gac | acg | gct | gtg | tat | tac | tgt | 288 |
| Leu | Gln | Met | Asn | Ser | Leu | Arg | Val | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| gcg | agg | gat | tac | tat | agc | gtt | act | aag | aaa | ctc | aga | ctc | cac | tac | tac | 336 |
| Ala | Arg | Asp | Tyr | Tyr | Ser | Val | Thr | Lys | Lys | Leu | Arg | Leu | His | Tyr | Tyr | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| tac | tac | atg | gac | gtc | tgg | ggc | aaa | ggg | acc | acg | gtc | acc | gtc | tcc | tca | 384 |
| Tyr | Tyr | Met | Asp | Val | Trp | Gly | Lys | Gly | Thr | Thr | Val | Thr | Val | Ser | Ser | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |

<210> 54

<211> 128

<212> PRT

<213> Homo sapiens

<400> 54

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Val | Lys | Leu | Leu | Glu | Ser | Gly | Gly | Gly | Val | Val | Gln | Pro | Gly | Arg |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Leu | Arg | Leu | Ser | Cys | Ala | Ala | Ser | Gly | Phe | Thr | Phe | Ser | Ser | Tyr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Val |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Asp | Ile | Trp | Phe | Asp | Gly | Gly | Asn | Lys | His | Tyr | Ala | Asp | Phe | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Lys | Gly | Arg | Phe | Thr | Ile | Ser | Arg | Asp | Asn | Ser | Lys | Asn | Thr | Val | Tyr |
| | 65 | | | | 70 | | | | | 75 | | | | | 80 |

Leu Gln Met Asn Ser Leu Arg Val Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Tyr Tyr Ser Val Thr Lys Lys Leu Arg Leu His Tyr Tyr
100 105 110

Tyr Tyr Met Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 55
<211> 315
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(315)

<400> 55
gtg atg acc cag tct cca tcc tcc ctg tct gca tct gta gga gac aga 48
Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
1 5 10 15
gtc acc atc act tgc cgg gca agt cag ggc att aga aat gat tta acc 96
Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asn Asp Leu Thr
20 25 30
tgg tat cag caa aaa cca ggg aaa gcc cct aag ctc ctg atc tat gct 144
Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ala
35 40 45
gca tcc aat tta caa agt ggg gtc cca tca agg ttc agc ggc agt gga 192
Ala Ser Asn Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
50 55 60
tct ggc aca gat ttc act ctc acc atc agc agc ctg cag cct gaa gat 240
Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
65 70 75 80
ttt gca act tat tac tgt cta caa gat aac aat ttc ccg tac act ttt 288
Phe Ala Thr Tyr Tyr Cys Leu Gln Asp Asn Asn Phe Pro Tyr Thr Phe
85 90 95
ggc cag ggg acc aag ctg gag atc aaa 315
Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 56
<211> 105
<212> PRT
<213> Homo sapiens

<400> 56
Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
1 5 10 15
Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asn Asp Leu Thr
20 25 30

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ala
 35 40 45
 Ala Ser Asn Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
 50 55 60
 Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
 65 70 75 80
 Phe Ala Thr Tyr Tyr Cys Leu Gln Asp Asn Asn Phe Pro Tyr Thr Phe
 85 90 95
 Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 57
 <211> 375
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(375)

<400> 57
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 Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
 1 5 10 15
 tcc ctg aga gtc gcc tgt gta gcg tct gga ttc acc ttc agg aat ttt 96
 Ser Leu Arg Val Ala Cys Val Ala Ser Gly Phe Thr Phe Arg Asn Phe
 20 25 30
 ggc atg cac tgg gtc cgc cag gct cca ggc aag ggg ctg gag tgg gtg 144
 Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 gct ttt att tgg ttt gat gca agt aat aaa gga tat gga gac tcc gtt 192
 Ala Phe Ile Trp Phe Asp Ala Ser Asn Lys Gly Tyr Gly Asp Ser Val
 50 55 60
 aag ggc cga ttc acc gtc tcc aga gac aat tcc aag aac acg ctc tat 240
 Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 ctg caa atg aac ggc ctg aga gcc gaa gac acg gct gta tat tat tgt 288
 Leu Gln Met Asn Gly Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 gcg aga gag aag gcg gtt cgg gga att agt aga tac aac tac tac atg 336
 Ala Arg Glu Lys Ala Val Arg Gly Ile Ser Arg Tyr Asn Tyr Tyr Met
 100 105 110
 gac gtc tgg ggc aag ggg acc acg gtc acc gtc tcc tca 375
 Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
 115 120 125

<210> 58
 <211> 125
 <212> PRT
 <213> Homo sapiens

<400> 58
 Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Val Ala Cys Val Ala Ser Gly Phe Thr Phe Arg Asn Phe
 20 25 30
 Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Phe Ile Trp Phe Asp Ala Ser Asn Lys Gly Tyr Gly Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Gly Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Glu Lys Ala Val Arg Gly Ile Ser Arg Tyr Asn Tyr Tyr Met
 100 105 110
 Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
 115 120 125

<210> 59
 <211> 315
 <212> DNA
 <213> Homo sapiens

<220>
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 <222> (1)..(315)

<400> 59
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 Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
 1 5 10 15
 gtc acc atc act tgc cgg gca agt cag agc att atc aga tat tta aat 96
 Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ile Arg Tyr Leu Asn
 20 25 30
 tgg tat cag cac aaa cca ggg aaa gcc cct aag ctc ctg atc cat act 144
 Trp Tyr Gln His Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile His Thr
 35 40 45
 gca tcc agt ttg caa agt ggg gtc ccg tca agg ttc agt ggc agt gta 192
 Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Val
 50 55 60
 tct ggg aca gat ttc act ctc acc atc agc agt ctg caa cct gaa gat 240
 Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
 65 70 75 80

ttt gca act tac tac tgt caa cag agt tac act acc ccg tac act ttt 288
 Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Thr Thr Pro Tyr Thr Phe
 85 90 95

ggc cag ggg acc aag ctg cag atc aaa 315
 Gly Gln Gly Thr Lys Leu Gln Ile Lys
 100 105

<210> 60
 <211> 105
 <212> PRT
 <213> Homo sapiens

<400> 60
 Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
 1 5 10 15
 Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ile Arg Tyr Leu Asn
 20 25 30
 Trp Tyr Gln His Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile His Thr
 35 40 45
 Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Val
 50 55 60
 Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
 65 70 75 80
 Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Thr Thr Pro Tyr Thr Phe
 85 90 95
 Gly Gln Gly Thr Lys Leu Gln Ile Lys
 100 105

<210> 61
 <211> 375
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(375)

<400> 61
 cag gtg aaa ctg ctc gag tct ggg gga ggc gtg gtc cag ccg ggg ggg 48
 Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
 1 5 10 15
 tcc ctg aga gtc gcc tgt gta gcg tct gga ttc acc ttc agg aat ttt 96
 Ser Leu Arg Val Ala Cys Val Ala Ser Gly Phe Thr Phe Arg Asn Phe
 20 25 30
 ggc atg cac tgg gtc cgc cag gct cca ggc aag ggg ctg gag tgg gtg 144
 Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

| | |
|---|-----|
| gct ttt att tgg ttt gat gca agt aat aaa gga tat gga gac tcc gtt | 192 |
| Ala Phe Ile Trp Phe Asp Ala Ser Asn Lys Gly Tyr Gly Asp Ser Val | |
| 50 55 60 | |
| | |
| aag ggc cga ttc acc gtc tcc aga gac aat tcc aag aac acg ctc tat | 240 |
| Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr | |
| 65 70 75 80 | |
| | |
| ctg caa atg aac ggc ctg aga gcc gaa gac acg gct gta tat tat tgt | 288 |
| Leu Gln Met Asn Gly Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys | |
| 85 90 95 | |
| | |
| gcg aga gag aag gcg gtt cgg gga att agt aga tac aac tac tac atg | 336 |
| Ala Arg Glu Lys Ala Val Arg Gly Ile Ser Arg Tyr Asn Tyr Tyr Met | |
| 100 105 110 | |
| | |
| gac gtc tgg ggc aag ggg acc acg gtc acc gtc tcc tca | 375 |
| Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser | |
| 115 120 125 | |

<210> 62
 <211> 125
 <212> PRT
 <213> Homo sapiens

| | |
|---|--|
| <400> 62 | |
| Gln Val Lys Leu Leu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly | |
| 1 5 10 15 | |
| | |
| Ser Leu Arg Val Ala Cys Val Ala Ser Gly Phe Thr Phe Arg Asn Phe | |
| 20 25 30 | |
| | |
| Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val | |
| 35 40 45 | |
| | |
| Ala Phe Ile Trp Phe Asp Ala Ser Asn Lys Gly Tyr Gly Asp Ser Val | |
| 50 55 60 | |
| | |
| Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr | |
| 65 70 75 80 | |
| | |
| Leu Gln Met Asn Gly Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys | |
| 85 90 95 | |
| | |
| Ala Arg Glu Lys Ala Val Arg Gly Ile Ser Arg Tyr Asn Tyr Tyr Met | |
| 100 105 110 | |
| | |
| Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser | |
| 115 120 125 | |

<210> 63
 <211> 315
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(315)

<400> 63

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| gtg | atg | acc | cag | tct | cca | tcc | ttc | ctg | tct | gca | tct | gta | gga | gac | aga | 48 |
| Val | Met | Thr | Gln | Ser | Pro | Ser | Phe | Leu | Ser | Ala | Ser | Val | Gly | Asp | Arg | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| gtc | acc | atc | act | tgc | cgg | gca | agt | cag | agc | att | atc | aga | tat | tta | aat | 96 |
| Val | Thr | Ile | Thr | Cys | Arg | Ala | Ser | Gln | Ser | Ile | Ile | Arg | Tyr | Leu | Asn | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| tgg | tat | cag | cac | aaa | cca | ggg | aaa | gcc | cct | aag | ctc | ctg | atc | cat | gct | 144 |
| Trp | Tyr | Gln | His | Lys | Pro | Gly | Lys | Ala | Pro | Lys | Leu | Leu | Ile | His | Ala | |
| | | 35 | | | | 40 | | | | | 45 | | | | | |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| gca | tcc | agt | ttg | caa | agt | ggg | gtc | ccg | tca | agg | ttc | agt | ggc | agt | gta | 192 |
| Ala | Ser | Ser | Leu | Gln | Ser | Gly | Val | Pro | Ser | Arg | Phe | Ser | Gly | Ser | Val | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| tct | ggg | aca | gat | ttc | act | ctc | acc | atc | agc | agt | ctg | caa | cct | gaa | gat | 240 |
| Ser | Gly | Thr | Asp | Phe | Thr | Leu | Thr | Ile | Ser | Ser | Leu | Gln | Pro | Glu | Asp | |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | | |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ttt | gca | act | tac | tac | tgt | caa | cag | agt | tac | act | acc | ccg | tac | act | ttt | 288 |
| Phe | Ala | Thr | Tyr | Tyr | Cys | Gln | Gln | Ser | Tyr | Thr | Thr | Pro | Tyr | Thr | Phe | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|-----|
| ggc | cag | ggg | acc | aag | ctg | cag | atc | aaa | | | | | | | | 315 |
| Gly | Gln | Gly | Thr | Lys | Leu | Gln | Ile | Lys | | | | | | | | |
| | | | 100 | | | | | 105 | | | | | | | | |

<210> 64
 <211> 105
 <212> PRT
 <213> Homo sapiens

<400> 64

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Met | Thr | Gln | Ser | Pro | Ser | Phe | Leu | Ser | Ala | Ser | Val | Gly | Asp | Arg |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Thr | Ile | Thr | Cys | Arg | Ala | Ser | Gln | Ser | Ile | Ile | Arg | Tyr | Leu | Asn |
| | | | 20 | | | | | 25 | | | | | 30 | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Tyr | Gln | His | Lys | Pro | Gly | Lys | Ala | Pro | Lys | Leu | Leu | Ile | His | Ala |
| | | 35 | | | | 40 | | | | | 45 | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ser | Ser | Leu | Gln | Ser | Gly | Val | Pro | Ser | Arg | Phe | Ser | Gly | Ser | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Gly | Thr | Asp | Phe | Thr | Leu | Thr | Ile | Ser | Ser | Leu | Gln | Pro | Glu | Asp |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Ala | Thr | Tyr | Tyr | Cys | Gln | Gln | Ser | Tyr | Thr | Thr | Pro | Tyr | Thr | Phe |
| | | | | 85 | | | | 90 | | | | | | 95 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|
| Gly | Gln | Gly | Thr | Lys | Leu | Gln | Ile | Lys | | | | | | | |
| | | | 100 | | | | | 105 | | | | | | | |

<210> 65
 <211> 29

<212> DNA
 <213> Homo sapiens

 <400> 65
 cactcccagg tgcagctgct cgagtctgg 29

 <210> 66
 <211> 32
 <212> DNA
 <213> Homo sapiens

 <400> 66
 gtgctgtccc aggtcaactt actcgagtct gg 32

 <210> 67
 <211> 32
 <212> DNA
 <213> Homo sapiens

 <400> 67
 gtccaggtgg aggtgcagct gctcgagtct gg 32

 <210> 68
 <211> 32
 <212> DNA
 <213> Homo sapiens

 <400> 68
 gtctgtccc aggtgcagct gctcgagtcg gg 32

 <210> 69
 <211> 32
 <212> DNA
 <213> Homo sapiens

 <400> 69
 gtctgtgccg aggtgcagct gctcgagtct gg 32

 <210> 70
 <211> 32
 <212> DNA
 <213> Homo sapiens

 <400> 70
 gtctgtcac aggtacagct gctcgagtca gg 32

 <210> 71
 <211> 27
 <212> DNA
 <213> Homo sapiens

 <400> 71
 agcatcacta gtacaagatt tgggctc 27

<210> 72
<211> 35
<212> DNA
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<400> 72
gtgcgagatg tgagctcgtg atgacccagt ctcca 35

<210> 73
<211> 56
<212> DNA
<213> Homo sapiens

<400> 73
tccttctaga ttactaacac tctccctgt tgaagctctt tgtgacgggc gaactc 56

<210> 74
<211> 36
<212> DNA
<213> Homo sapiens

<400> 74
ctgcacaggg tcctgggccg agctcgtggt gactca 36

<210> 75
<211> 34
<212> DNA
<213> Homo sapiens

<400> 75
gcattctaga ctattatgaa cattctgtag gggc 34

<210> 76
<211> 35
<212> DNA
<213> Homo sapiens

<400> 76
tacgcgttgt gacatcgtga tgaccagtc tccat 35

<210> 77
<211> 34
<212> DNA
<213> Homo sapiens

<400> 77
agtcgctcag ttcgtttgat ttcaagcttg gtcc 34